

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: June 9, 1997
Date Received: June 5, 1997
Project: Metro, PO #M57412
Date Samples Extracted: June 5, 1997
Date Extracts Analyzed: June 6, 1997

**RESULTS FROM THE ANALYSIS OF THE WATER SAMPLE
FOR CHROMIUM, COPPER, NICKEL, AND ZINC
USING METHOD 6010**

Samples Processed Using Method 3005A
Results Reported as mg/L (ppm)

<u>Sample ID</u>	<u>Chromium</u>	<u>Copper</u>	<u>Nickel</u>	<u>Zinc</u>
M57412	0.48	0.60	0.49	0.06
Method Blank	<0.05	<0.05	<0.05	<0.05

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Date of Report: June 9, 1997

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**QUALITY ASSURANCE RESULTS FOR
THE ANALYSIS OF WATER SAMPLES
FOR TOTAL METALS BY
INDUCTIVELY COUPLED PLASMA (ICP)
(METHOD 6010)**

Laboratory Code: 78591 (Duplicate)

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Sample Result</u>	<u>Duplicate Result</u>	<u>Relative Percent Difference</u>	<u>Acceptance Criteria</u>
Chromium	mg/L (ppm)	1.7	1.7	0	0-20
Copper	mg/L (ppm)	1.5	1.6	6	0-20
Nickel	mg/L (ppm)	2.1	2.1	0	0-20
Zinc	mg/L (ppm)	<0.05	<0.05	nm	0-20

Laboratory Code: 78591 (Matrix Spike)

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Spike Level</u>	<u>Sample Result</u>	<u>% Recovery</u>		<u>Acceptance Criteria</u>	<u>Relative Percent Difference</u>
				<u>MS</u>	<u>MSD</u>		
Chromium	mg/L (ppm)	5	1.7	100	96	80-120	4
Copper	mg/L (ppm)	5	1.5	94	98	80-120	4
Nickel	mg/L (ppm)	10	2.1	98	95	80-120	3
Zinc	mg/L (ppm)	5	<0.05	97	95	80-120	2

Laboratory Code: Spike Blank

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Spike Level</u>	<u>% Recovery</u>		<u>Acceptance Criteria</u>	<u>Relative Percent Difference</u>
			<u>MS</u>	<u>MSD</u>		
Chromium	mg/L (ppm)	5	102	105	80-120	3
Copper	mg/L (ppm)	5	102	100	80-120	2
Nickel	mg/L (ppm)	10	103	106	80-120	3
Zinc	mg/L (ppm)	5	103	103	80-120	0

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

KJ AI
06.05.97
1:22

Company Alaskan Copper Works Contact GERALD Thompson
 Phone 628 HA-SAN
 State, Zip Seattle WA
 Tel # (206) 382-8379

[illegible]

Signature	PRINT NAME	COMPANY	Date	Time
<i>[Signature]</i>	GERALD Thompson	ACW	6-5-97	1:00pm
<i>[Signature]</i> Kiriol	Melanie Kiriol	FBI	6-5-97	1:00pm

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Beth Albertson, M.S.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.
Melanie Kirol, B.S.

June 9, 1997

3012 16th Avenue West
Seattle, WA 98119-2029
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**INVOICE # 97ACU0609-1
DUPLICATE COPY**

Accounts Payable
Alaskan Copper Works
628 South Hanford St.
Seattle, WA 98134

RE: Project Metro, PO #M57412: Results of testing requested by Gerry
Thompson, Project Manager for material submitted on June 5, 1997.

1 water sample analyzed for
Chromium, Copper, Nickel, and Zinc
using Method 6010 @ \$65 per sample

\$ 65.00

Amount Due

\$ 65.00

FEDERAL TAX ID #(b) (6)

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June 9, 1997

**Gerry Thompson, Project Manager
Alaskan Copper Works
628 South Hanford St.
Seattle, WA 98134**

Dear Mr. Thompson:

**Included are the results from the testing of material submitted on June 5, 1997
from your Metro, PO #M57412 project.**

**We appreciate this opportunity to be of service to you and hope you will call if you
should have any questions.**

Sincerely,

FRIEDMAN & BRUYA, INC.



**Kurt Johnson
Chemist**

**keh
Enclosures
ACU0609R.DOC**